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Department of Land And Natural
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1151 Punchbowl Street
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84 JUN 13 P 2: 31
RECEIVED
DIV. OF WATER &
LAND DEVELOPMENT

Re: Geothermal Power Development

Dear Mr. Tagomori:

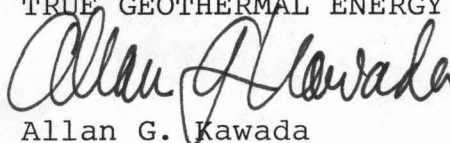
Enclosed are two (2) copies of a Sociological Survey which was done for the Kahauale'a geothermal project. The survey was done for the Estate of James Campbell.

The substantive matters in the survey may be of use in the socio-economic assessment for the geothermal sub-zone review by the Department of Land And Natural Resources.

Should you have any questions, please call me at 528-3496.

Very truly yours,

TRUE GEOTHERMAL ENERGY COMPANY


Allan G. Kawada

AGK/ss

Enclosures

**FINAL REPORT
OF AN
INDEPENDENT SURVEY
OF HILO AREA RESIDENTS
PREPARED FOR
CAMPBELL ESTATE
ON
GEOTHERMAL POWER DEVELOPMENT
AND CONDUCTED ON
JUNE 14, 15, AND 16, 1982**

**PREPARED BY
MEDIA TECH, INC.
HONOLULU, HAWAII**

June 30, 1982

KO HAYASHI
President

EARL T. WATANABE
Executive Vice President

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Campbell Estate Geothermal Survey

SUMMARY HIGHLIGHTS

This independent survey among randomly selected Hilo area residents was conducted by Media Tech, Inc., on June 14, 15, and 16 on the Big Island. A telephone survey was utilized.

The data generated by this survey will be very helpful in guiding Campbell Estate in their geothermal power project in the Puna area. These summary highlights include just major findings and significant new public opinion trends. The reader should study the specific tables in order to obtain a firmer grasp of subtle and not-so-subtle trends that are developing in the Big Island's geothermal outlook.

The main weakness of the survey was that it was quite lengthy, since we "piggy-backed" another survey with this geothermal survey, in order to economize on costs. The other survey included with this poll was for a Hilo radio station. However, most respondents were very cooperative and willingly gave their time.

Here then are the Summary Highlights:

- ** We found that the majority of respondents (50.3%) knew something about geothermal energy. Another significant portion of those interviewed (39.0%) felt that they did not know much about geothermal. There is still much educational work and information dissemination to be done.
- ** A large majority of those surveyed (61.6%) indicated that they are somewhat in favor of geothermal energy. Another 13.1% declared that they were strongly in favor of geothermal power projects. This shows strong support throughout the community. But we would caution that such support is rather "shallow" in nature, and requires consolidation.
- ** Over half of the respondents (57.1%) do not believe that geothermal energy will reduce electricity rates for Big Island residents. Another 30.4% on the other hand, do believe that electricity rates will go down.

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SUMMARY HIGHLIGHTS (Continued)

Campbell Estate Geothermal Survey

- ** A majority of those people surveyed (50.3%) said that they did not think there would be unacceptable noise generated in connection with the drilling for geothermal power.
- ** A strong majority (70.6%) of the respondents felt that the geothermal project would provide significant employment opportunities for local people.
- ** Almost two-thirds of those interviewed (63.5%) did not believe that the drilling would cause volcanic eruptions.
- ** An overwhelming majority (77.3%) felt that geothermal project development would help boost the local Big Island economy, which is presently facing very critical times.
- ** A strong majority of respondents (59.0%) believes that geothermal projects will cause bad smelling odors.
- ** Two-thirds of those interviewed (68.9%) do not think road traffic will be significantly affected by the establishment of a geothermal project in Puna.
- ** Asked what are the biggest drawbacks of a geothermal project on the Big Island, the majority of respondents (46.6%) stated that it would be bad odors.

Campbell Estate Geothermal Survey

INTRODUCTION

This FINAL REPORT provides general overall results; technical socio-economic data; and analysis of the survey's findings. The random sample of Big Islanders, who participated in this survey, was taken from the Big Island telephone directory.

Media Tech, Inc., carried out a comprehensive and intensive survey. The initial survey list consisted of 478 names. The number of respondents to this telephone survey totaled 344. A few refused to answer any questions; some were never home when we tried to contact them; and a number of the phone numbers were not in working order or the resident had either changed phone numbers or moved away.

In the case where respondents would give a descriptive answer, or answer in a way not structured in our survey answer sheet, we have tried to capture the "flavor of their comments" and have indicated the general thrust of their sentiments.

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Campbell Estate
Geothermal Survey

TABLE I

Question: "Do you feel you know a lot, some or not much about geothermal energy?"

<u>REACTION</u>	<u>RESPONDENTS</u>
A lot	7.8%
Some	50.3%
Not much	39.0%
No opinion	2.9%
	<u>100.0%</u>

COMMENTS:

The majority of respondents (50.3%) knew something about geothermal energy. Another significant percentage of the people surveyed (39.0%) said that they did not know very much about geothermal energy.

Only 7.8% of the respondents indicated that they were knowledgeable about geothermal energy. And a small minority (2.9%) had no opinion.

It is apparent from this survey that much education is still necessary to get the general public to be more aware of geothermal energy.

Campbell Estate
Geothermal Survey

TABLE II

Question: "From what you know, are you..."

<u>OPINION</u>	<u>RESPONDENTS</u>
Strongly in favor of it	13.1%
Somewhat in favor	61.6%
Opposed to it	11.6%
Strongly opposed to it	2.3%
Completely opposed to it	0.3%
No Opinion	11.1%
	<u>100.0%</u>

COMMENTS:

Of the respondents interviewed, 61.6% said that they are somewhat in favor of geothermal energy. Another 13.1% that they were strongly in favor of it. This combined percentage shows a strong support for geothermal project development.

Only 11.6% of the respondents declared that they were opposed to geothermal energy, while another 2.3% were strongly opposed to it. Only 0.3% of those surveyed stated that they were completely opposed to it. 11.1% of the people polled had no opinion on the subject.

Almost three-fourths of the people interviewed said that they held a favorable view of geothermal energy. This shows a strong community support toward geothermal energy on the Big Island. At the same time, the bulk of this support seems rather shallow and must be developed and cultivated.

Campbell Estate
Geothermal Survey

TABLE III

Question: "Do you believe geothermal energy will reduce the electricity rates for Big Island residents?"

	<u>RESPONDENTS</u>
Yes	30.4%
No	57.1%
No Opinion	<u>12.5%</u>
	<u>100.0%</u>

COMMENTS:

Over half the respondents (57.1%) do not believe that geothermal energy will reduce electricity rates for Big Island residents.

Nearly one-third (30.4%) do believe that electricity rates will go down, with the development of geothermal power.

A minority of 12.5% had no opinion.

Campbell Estate
Geothermal Survey

TABLE IV

Question: "Do you believe the drilling connected with the project will cause unacceptable noise?"

	<u>RESPONDENTS</u>
Yes	19.5%
No	50.3%
No Opinion	<u>30.2%</u>
	<u>100.0%</u>

COMMENTS:

A majority of those people surveyed (50.3%) said that they felt that there would not be unacceptable noise in connection with the drilling involved in the geothermal project.

A 19.5% share of the respondents did feel that there would be unacceptable noise created from the project's drilling. A large segment (30.2%) of the people surveyed had no opinion.

Campbell Estate
Geothermal Survey

TABLE V

Question: "Do you believe that the drilling will provide a significant number of jobs for local people?"

	<u>RESPONDENTS</u>
Yes	70.6%
No	16.9%
No Opinion	<u>12.5%</u>
	<u>100.0%</u>

COMMENTS:

A strong majority of the respondents (70.6%) felt that the geothermal project would provide a significant number of jobs for local people.

A minority of 16.9% said that geothermal development projects would not create significant employment opportunities for Big Island residents.

12.5% had no opinion.

Campbell Estate
Geothermal Survey

TABLE VI

Question: "Do you believe that the drilling will cause volcanic eruptions?"

	<u>RESPONDENTS</u>
Yes	6.4%
No	63.5%
No Opinion	<u>30.1%</u>
	<u>100.0%</u>

COMMENTS:

Almost two-thirds of those interviewed (63.5%) did not believe that the drilling would cause volcanic eruptions. It reflects the general public's strong awareness of Big Island volcanoes, and their relative safe and non-violent behavior patterns.

Only a small minority (6.4%) replied that the drilling associated with the project would cause volcanic eruptions.

Another 30.1%, a rather large portion of those interviewed, stated that they had no opinion.

Campbell Estate
Geothermal Survey

TABLE VII

Question: "Do you believe that this project will help boost the local economy?"

	<u>RESPONDENTS</u>
Yes	77.3%
No	10.5%
No Opinion	<u>12.2%</u>
	<u>100.0%</u>

COMMENTS:

An overwhelming majority of those interviewed (77.3%) felt that geothermal energy development would help boost the local Big Island economy.

Only a small minority (10.5%) said that they did not think geothermal projects would help benefit or build up the local economy. Another 12.2% had no opinion.

Campbell Estate
Geothermal Survey

TABLE VIII

Question: "Do you believe this project will cause bad smelling odors?"

	<u>RESPONDENTS</u>
Yes	59.0%
No	25.9%
No Opinion	<u>12.5%</u>
	<u>100.0%</u>

COMMENTS:

A strong majority of respondents (59.0%) believes that the geothermal projects will cause bad smelling odors.

Another 25.9% said that they did not think geothermal power development would cause foul odors. A 15.1% share of the survey had no opinion.

Campbell Estate
Geothermal Survey

TABLE IX

Question: "Do you think a geothermal project in Puna will..."

	<u>RESPONDENTS</u>
Increase road traffic	18.6%
Not significantly affect road traffic	68.9%
No Opinion	<u>12.5%</u>
	<u>100.0%</u>

COMMENTS:

Two-thirds of those interviewed (68.9%) do not think road traffic will be significantly affected by the establishment of a geothermal project in Puna.

Only a minority of 18.6% felt that such a project would increase road traffic. 12.5% of the respondents had no opinion.

TABLE X

Question: "Which of the following do you believe is the biggest drawback to a geothermal project on the Big Island?"

	<u>RESPONDENTS</u>
Noise	7.6%
Bad Odors	46.6%
Volcanic Eruptions	2.7%
Increased Traffic	6.8%
Public Safety	8.6%
No Drawbacks	16.3%
No Opinion	11.4%
	<u>100.0%</u>

COMMENTS:

The majority of the respondents felt that the biggest drawback of a geothermal project on the Big Island would be the bad odors they felt would result from the project.

16.3% felt that there would be no drawbacks to having a project on the Big Island and another 11.4% had no opinion.

8.6% picked public safety as a concern, while 7.6% saw noise as the biggest drawback. Another 6.8% picked traffic as a negative while only a small minority of 2.7% saw the possibility of volcanic eruptions caused by the project as being cause for concern.

Campbell Estate
Geothermal Survey

TABLE XI

Question: "How would you describe your cultural heritage?"

<u>CULTURAL HERITAGE</u>	<u>RESPONDENTS</u>
Hawaiian	5.2%
Japanese	37.5%
Chinese	4.1%
Filipino	11.3%
Black	0.0%
Caucasian	32.0%
Cosmopolitan	3.2%
Other	3.5%
No Reply	3.2%
	<u>100.0%</u>

TABLE XII

Question: "Age"

<u>AGE</u>	<u>RESPONDENTS</u>
Under 18	3.8%
18 - 24	7.6%
25 - 29	13.1%
30 - 39	23.3%
40 - 49	16.0%
50 - 59	17.7%
60+	13.9%
No Reply	4.6%
	<u>100.0%</u>

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Geothermal Survey

TABLE XIII

Question: "Education"

<u>EDUCATION</u>	<u>RESPONDENTS</u>
Some high school or less	16.0%
High school graduate	39.0%
Some college	28.2%
College graduate	9.9%
Some post-graduate work	2.3%
No Reply	<u>4.6%</u>
	<u>100.0%</u>

TABLE XIV

Question: "Which category is your family's annual income?"

<u>INCOME LEVEL</u>	<u>RESPONDENTS</u>
Less than \$10,000	40.4%
\$11,000 - \$20,000	34.0%
\$21,000 - \$30,000	9.9%
\$31,000 - \$40,000	2.0%
Over \$40,000	0.3%
No Reply	<u>13.4%</u>
	<u>100.0%</u>

Campbell Estate
Geothermal Survey

TABLE XV

Question: "Employment"

<u>EMPLOYER</u>	<u>RESPONDENTS</u>
Federal employee	0.9%
State employee	4.3%
County employee	3.5%
Housewife	20.0%
Retired	12.5%
Student	6.1%
Private Business Employee	42.0%
Unemployed	7.2%
Self-employed	1.5%
No Reply	2.0%
	<u>100.0%</u>

TABLE XVI

Question: "Marital Status"

<u>STATUS</u>	<u>RESPONDENTS</u>
Single	29.9%
Married	69.5%
No Reply	0.6%
	<u>100.0%</u>

TABLE XVII

Question: "Sex"

SEX

Male
Female

RESPONDENTS

53.8%

46.2%

100.0%

CONCLUSION

The results of this survey provides us with a very revealing insight of how Big Island residents view geothermal power development projects in the Puna area. We have discovered dramatic evidence that almost two-thirds of the populace are somewhat in favor of the development of geothermal power.

At the same time, we have learned that many people still feel that they do not know much about geothermal energy. Still, many feel that they know enough to form some kind of opinion.

A warning to geothermal developers is that while there is general support for the idea of geothermal power projects on the Big Island, it also must be understood that such support is "shallow" in nature. That "support" can be easily transformed into opposition, or with more information and education, it can be firmed up into much more consistent, fundamental support.

It seems from this survey, that many Big Islanders are quite realistic about geothermal power. On one hand, they view this development as very positive for the local economic superstructure. On the other hand, they do not expect to see benefits in terms of lower utility rates. They also perceive the project as having negative effects, in particular bad odors but not affecting traffic or volcanic eruptions.

The calculated sampling error in this survey is estimated at 3%. We have every reason to believe that this was a very accurate and successful survey, that correctly reflects how the general public views the overall development of geothermal power projects on the Big Island today.

All raw data and tabulations remain securely on file at the offices of Media Tech, Inc.

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